



Occupational Safety

MAY 21 1991

# MATERIAL SAFETY DATA SHEET

PRODUCT SOLUTION S0321 EP-1

Emergency Telephone Number

Medical (708) 920-1510 (24 hours)

ORIGINAL

## SECTION 1 PRODUCT IDENTIFICATION

TRADE NAME: SOLUTION S0321 EP-1

DESCRIPTION: EP-1, aqueous solution of silver nitrate and nitric acid

NFPA 704M/HMIS RATING: 2/2 HEALTH 0/0 FLAMMABILITY 0/0 REACTIVITY 0 OTHER  
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

## SECTION 2 HAZARDOUS INGREDIENTS

Our hazard evaluation has identified the following chemical ingredient(s) as hazardous under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Consult Section 14 for the nature of the hazard(s).

INGREDIENT(S)	CAS #	APPROX.%
Silver nitrate	7761-88-8	10
Nitric acid	7697-37-2	3

## SECTION 3 PRECAUTIONARY LABEL INFORMATION

WARNING: Contains nitric acid. Causes skin and eye injury. Do not take internally.

## SECTION 4 FIRST AID INFORMATION

EYES: Immediately flush for at least 15 minutes while holding eyelids open. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. For a large splash, flood body under a shower. Call a physician at once.

INGESTION: Do not induce vomiting. Give water. Call a physician.

NOTE TO PHYSICIAN: No specific antidote is known. Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.



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## SECTION 5 HEALTH EFFECTS INFORMATION

PRIMARY ROUTE(S) OF EXPOSURE: Eye, Skin

EYE CONTACT: Can cause eye injury.

SKIN CONTACT: Can cause irritation to injury depending on length of contact.

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

## SECTION 6 TOXICOLOGY INFORMATION

ACUTE TOXICITY STUDIES: No toxicity studies have been conducted on this product.

## SECTION 7 PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Colorless	FORM: Liquid	ODOR: None
SOLUBILITY IN WATER: Completely		
pH (NEAT) = Less than 1		ASTM E-70
FLASH POINT: None		

NOTE: These physical properties are typical values for this product.

## SECTION 8 FIRE AND EXPLOSION INFORMATION

FLASH POINT: None

EXTINGUISHING MEDIA: Not applicable

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve NO<sub>x</sub> under fire conditions. Contact with reactive metals (e.g. aluminum) may result in the generation of flammable hydrogen gas.

## SECTION 9 REACTIVITY INFORMATION

INCOMPATIBILITY: Avoid alkaline materials (eg. ammonia and its solutions, carbonates, sodium hydroxide (caustic), potassium hydroxide, calcium hydroxide (lime), cyanides, sulfides, hypochlorites, chlorites) which can generate heat with splattering or boiling and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO<sub>2</sub>, NO<sub>x</sub>, may be



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## SECTION 9 REACTIVITY INFORMATION

( CONTINUED )

formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

## SECTION 10 PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Respiratory protection is not normally needed.

VENTILATION: General ventilation is recommended.

PROTECTIVE EQUIPMENT: Wear gloves, apron and chemical splash goggles.

The availability of an eye wash fountain and safety shower is recommended.

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

## SECTION 11 SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL THE FOLLOWING 24-HOUR TELEPHONE NUMBER (708-920-1510)

### SPILL CONTROL AND RECOVERY:

Small liquid spills: Cover the contaminated surface with sodium bicarbonate or a soda ash-slaked lime mixture. Mix and add water if necessary to form a slurry. Scoop up slurry and dispose with hazardous wastes.

DISPOSAL: If this product becomes a waste, it meets the criteria of a hazardous waste as defined under the Resources Conservation and Recovery Act (RCRA) 40 CFR 261. Hazardous Waste D002, and D011.

Product contains silver nitrate at a level higher than the EP toxic limit of 5 ppm Ag.

As a hazardous liquid waste, it must be solidified before disposal in a landfill (Hazardous Waste Treatment, Storage and Disposal facility). Can be deep-well injected in accordance with local, state and federal regulations.

Empty product containers should be punctured, if plastic, and placed in the garbage collection container.

## SECTION 12 ENVIRONMENTAL INFORMATION

If released into the environment, see CERCLA in Section 14.



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## SECTION 13 TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME/HAZARD CODE - ACID, LIQUID, N.O.S.  
CORROSIVE MATERIAL NA 1760  
CONTAINS - NITRIC ACID

## SECTION 14 REGULATORY INFORMATION

The following regulations apply to this product.

### FEDERAL REGULATIONS:

OSHA'S HAZARD COMMUNICATION RULE, 29 CFR 1910.1200:  
Based on our hazard evaluation, the following ingredients in this product are hazardous and the reasons are shown below.

Nitric acid - Corrosive

Nitric acid = TWA 2 ppm, STEL 4 ppm ACGIH/TLV  
5 mg/m<sup>3</sup>, 10 mg/m<sup>3</sup> ACGIH/TLV  
Silver, soluble compounds (as Ag) = TWA 0.01 mg/m<sup>3</sup> ACGIH/TLV

Nitric acid = TWA 2 ppm, STEL 4 ppm OSHA/PEL  
5 mg/m<sup>3</sup>, 10 mg/m<sup>3</sup> OSHA/PEL  
Silver, metal, dust, and fume (as Ag) = TWA 0.01 mg/m<sup>3</sup> OSHA/PEL

CERCLA/SUPERFUND, 40 CFR 117, 302:

This product contains silver nitrate, a Reportable Quantity (RQ) substance and if 10 pounds of product are released, it requires notification to the NATIONAL RESPONSE CENTER, WASHINGTON, D. C. (1-800-424-8802).

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986  
(TITLE III) - SECTIONS 302, 311, 312 AND 313:

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):

This product contains nitric acid, which is listed in Appendix A and B as an Extremely Hazardous Substance. The statutory threshold planning quantity for this substance is 1,000 pounds.

A release of 33,000 pounds of product will require a notification to your State Emergency Response Commission.

You may also be required to notify the NATIONAL RESPONSE CENTER  
- See CERCLA/SUPERFUND, above.

SECTIONS 311 and 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS



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## SECTION 14 REGULATORY INFORMATION

( CONTINUED )

(40 CFR 370):

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following EPA hazard categories:

- XX Immediate (acute) health hazard
- Delayed (chronic) health hazard
- Fire hazard
- Sudden release of pressure hazard
- Reactive hazard

Under Section 311, submittal of MSDS's or a list of product names to the local emergency planning commission, state emergency response commission and local fire department is required after October 17, 1987 if you have:

- 10,000 pounds or more of a hazardous substance, or
- 500 pounds or the threshold planning quantity, whichever is less, of an extremely hazardous substance.

After October 17, 1989, MSDS(s), or a list of product names for all hazardous substances between zero (0) and 10,000 pounds, not previously reported, must be submitted.

### SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product contains the following ingredient(s), (with CAS # and % range) which appear(s) on the List of Toxic Chemicals.

Silver nitrate	7761-88-8	10
Nitric acid	7697-37-2	3

### TOXIC SUBSTANCES CONTROL ACT (TSCA):

The chemical ingredients in this product are on the 8(b) Inventory List (40 CFR 710).

### RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), 40 CFR 261 SUBPART C & D:

If this product becomes a waste, it does meet the criteria of a hazardous waste as defined under RCRA 40 CFR 261 (consult Section 11).

### FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 (formerly Sec. 307), 40 CFR 116 (formerly Sec. 311):

This product contains the following ingredient(s) covered by the Clean Water Act:

Silver nitrate - Section 307, 311



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## SECTION 14 REGULATORY INFORMATION

( CONTINUED )

CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

This product does not contain ingredients covered by the Clean Air Act.

### STATE REGULATIONS:

#### CALIFORNIA PROPOSITION 65:

None of the chemicals on the current Proposition 65 list are known to be present in this product.

#### MICHIGAN CRITICAL MATERIALS:

This product contains the following substance(s) identified on the Michigan Critical Materials Register:

Silver nitrate

### STATE RIGHT TO KNOW LAWS:

Regulated in those states using the TLV for nitric acid and silver nitrate as a criteria for listing.

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## SECTION 15 ADDITIONAL INFORMATION

None

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## SECTION 16 USER'S RESPONSIBILITY

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

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## SECTION 17 BIBLIOGRAPHY

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## SECTION 17 BIBLIOGRAPHY

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THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS IN THE WORKROOM ENVIRONMENT WITH INTENDED CHANGES, American Conference of Governmental Industrial Hygienists, OH.

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